

IN THE CLAIMS:

Kindly cancel claims 1-20 without prejudice or admission and add new claims 21-48 as shown in the following listing of claims, which replaces all previous versions and listings of claims in this application.

1. - 20. (canceled).

21. (new) A method of producing an optical aperture, comprising the steps of:

providing an object having a substrate, at least one conical- or pyramidal-shaped tip disposed on the substrate, at least one stopper disposed on the substrate in the vicinity of the tip and having a height substantially equal to a height of the tip, and an opaque film disposed at least on the tip;

disposing a pressing body relative to the object so that a surface of the pressing body is disposed over the tip and at least a portion of the stopper; and

displacing the pressing body to bring the surface of the pressing body into contact with the object so that a force component is applied to a front end of the tip to form an optical aperture at the front end of the tip.

22. (new) A method according to claim 21; wherein the providing step includes the step of providing the object having a transparent layer disposed on a surface of the substrate so that the tip and the stopper are disposed on the transparent layer.

23. (new) A method according to claim 22; wherein the providing step includes the step of providing the object so that the opaque film is disposed on the tip, the stopper and the transparent layer.

24. (new) A method according to claim 22; wherein each of the tip, the stopper and the transparent layer is made of a dielectric material.

25. (new) A method according to claim 24; wherein the dielectric material is selected from the group consisting of a dielectric material having a transmissivity in the range of visible light, a dielectric material having a transmissivity in the range of infrared light, and a dielectric material having a transmissivity in the range of ultraviolet light.

26. (new) A method of producing an optical aperture, comprising the steps of:

providing an object having a substrate, at least one conical- or pyramidal-shaped tip disposed on the substrate, at least one stopper disposed on the substrate in the vicinity of the tip and having a height substantially equal to a height of the tip, and an opaque film disposed at least on the tip;

disposing a pressing body relative to the object so that a planar portion of the pressing body confronts the tip and at least one portion of the stopper; and

displacing the pressing body to bring the planar portion of the pressing body into contact with and to deform a front end of the tip and the at least one portion of the stopper to thereby form an optical aperture at the front end of the tip.

27. (new) A method according to claim 26; wherein the displacing step includes the step of deforming the front end of the tip and the at least one portion of the stopper simultaneously.

28. (new) A method according to claim 26; wherein the step of providing at least one conical- or pyramidal-shaped tip comprises the step of providing a plurality of conical- or pyramidal-shaped tips disposed over the substrate;

and wherein the displacing step comprises the step of displacing the pressing body to bring the planar portion of the pressing body into contact with and to deform a front end of each of the tips and the at least one portion of the stopper to thereby form an optical aperture at the front end of each of the tips.

29. (new) A near-field optical head comprising: a sharpened tip having an optical aperture at a front end thereof; and an opaque film covering the sharpened tip and having a plastically deformed portion in the vicinity of the optical aperture.

30. (new) A near-field optical head according to claim 29; further comprising at least one stopper disposed in the vicinity of the sharpened tip and having a height substantially equal to a height of the sharpened tip.

31. (new) A near-field optical head according to claim 30; wherein the sharpened tip and the stopper are made of the same material.

32. (new) A near-field optical head according to claim 30; wherein the stopper is disposed relative to the sharpened tip so that the stopper is subjected to a lift force upon relative movement between the stopper and a recording

medium to thereby maintain a constant distance between the optical aperture of the sharpened tip and the recording medium.

33. (new) A near-field optical head according to claim 30; wherein the front end of the sharpened tip projects from the plastically deformed portion of the opaque film.

34. (new) A method for fabricating a near-field optical head, comprising the steps of:

forming on a substrate at least one conical- or pyramidal-shaped tip;

forming at least one stopper on the substrate in the vicinity of the tip so that the stopper has a height substantially equal to a height of the tip;

forming an opaque film on the tip;

disposing a pressing body over the tip and at least a portion of the stopper; and

bringing the pressing body into contact with the tip to deform a portion of the opaque film in the vicinity of an apex of the tip to thereby form an optical aperture on the apex of the tip.

35. (new) A method according to claim 34; wherein the step of forming at least one conical- or pyramidal-shaped tip comprises the step of forming a plurality of conical- or

pyramidal-shaped tips on the substrate, the step of forming an opaque film comprises the step of forming an opaque film on the tips, the disposing step comprises the step of disposing the pressing body over the tips and at least a portion of the stopper, and the bringing step comprises the step of bringing the pressing body into contact with the tips to deform a portion of the opaque film in the vicinity of an apex of each of the tips to thereby simultaneously form an optical aperture on the apex of each of the tips.

36. (new) A method according to claim 34; wherein the steps of forming the tip and the stopper comprises a single forming step.

37. (new) A method according to claim 34; further comprising the steps of removing the stopper after the optical aperture is formed.

38. (new) An information recording/reading apparatus for recording/reading information utilizing near-field light, the information recording/reading apparatus comprising:

a recording medium;

a near-field optical head comprised of a conical- or pyramidal-shaped tip for transmitting light having a preselected wavelength, and an opaque film covering the tip, the tip having an optical aperture at a front end thereof confronting the recording medium;

aperture formation controlling means disposed in the vicinity of the tip of the near-field optical head for controlling formation of the optical aperture at the front end of the tip; and

a light guiding structure for guiding luminous flux from a light source to the optical aperture of the near-field optical head to generate near-field light for recording/reading information to and from the recording medium.

39. (new) An information recording/reading apparatus according to claim 38; wherein the aperture formation controlling means comprises at least one stopper having a height substantially equal to a height of the tip of the near-field optical head.

40. (new) An information recording/reading apparatus according to claim 38; further comprising a distance-control means for controlling a distance between the near-field optical head and the recording medium.

41. (new) An information recording/reading apparatus according to claim 40; wherein the distance-control means comprises a plurality of air bearing surfaces formed on the near-field optical head.

42. (new) An information recording/reading apparatus according to claim 41; wherein the distance-control means includes means for protecting the optical aperture of the near-field optical head.

43. (new) An information recording/reading apparatus according to claim 40; wherein the distance-control means comprises a piezoelectric actuator.

44. (new) An information recording/reading apparatus according to claim 40; wherein the aperture formation controlling means comprises the distance-control means.

45. (new) A method of producing an optical aperture, comprising the steps of:

providing an object having a substrate, a conical- or pyramidal-shaped tip disposed on the substrate, a plurality of stopper portions disposed on the substrate in the vicinity of the tip and each having a height substantially equal to a height of the tip, and an opaque film disposed at least on the tip;

disposing a pressing body relative to the object so that a surface of the pressing body is disposed over the tip and the stopper portions; and

displacing the pressing body to bring the surface of the pressing body into contact with the tip and the stopper

portions so that a force component is directed to a front end of the tip to form an optical aperture at the front end of the tip.

46. (new) A method according to claim 45; wherein the providing step comprises the step of providing a plurality of independent stoppers each having a respective one of the stopper portions.

47. (new) A method according to claim 45; wherein the providing step comprises the step of providing a single stopper having the stopper portions.

48. (new) A method according to claim 47; wherein the single stopper portion is generally circular in cross-section and surrounds the tip.